

IN THE CLAIMS

A marked up version of the claims as amended is set forth below.

1-18 (Cancelled)

19. (Previously presented) A method for encoding data bits for transmission comprising:

- (a) generating a first biphasic pulse having a first portion of a first polarity followed by a second portion of a second polarity;
- (b) waiting a first period of time following the second portion of the first biphasic pulse during which period of time no amplitude dependent data bits are encoding, the duration of the first period of time being selected to represent a first plurality of data bits;
- (c) generating a second biphasic pulse following the period of time, the second biphasic pulse having a third portion of the second polarity followed by a fourth portion of the first polarity;
- (d) waiting a second period of time following the fourth portion of the second biphasic pulse during which period of time no amplitude dependent data bits are encoding, the duration of the second period of time being selected to represent a second plurality of data bits;
- (e) repeating steps (a) and (b) with a third period of time representing a third plurality of data bits; and
- (f) repeating steps (c) and (d) with a fourth period of time representing a fourth plurality of data bits.

20. (Previously presented) The method of claim 19, wherein each biphasic pulse has no DC component.

21. (Previously presented) The method of claim 20, wherein each of the portions of the first and second biphasic pulses are single polarity pulses having an amplitude and a pulse width.

22. (Previously presented) The method of claim 21, wherein the amplitude of the single polarity pulses represents at least one data bit.

23. (Previously presented) The method of claim 21, wherein the pulse width of each of the single polarity pulses represents at least one data bit.

24. (Previously presented) The method defined by claim 19, including the step of transmitting a signal generated by the steps of claim 19 onto a twisted pair line.

25. (Previously presented) A method for decoding data bits from a received signal comprising:

- (a) detecting a first biphasic pulse having a first polarity, the first biphasic pulse having a first portion of a first polarity followed by a second portion of a second polarity;

- (b) detecting a second biphasic pulse having a second polarity, the second biphasic pulse having a third portion of the second polarity followed by a fourth portion of the first polarity;

- (c) measuring the time between the first and second biphasic pulses;

- (d) correlating the measured time from step (c) to a plurality of data bits;

- (e) detecting a third biphasic pulse of the first polarity;

- (f) measuring the time between the second biphasic pulse and the third biphasic pulse;
- (g) correlating the measured time from step (e) to a plurality of data bits; and
- (h) repeating steps (a) through (g).